



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P O Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

23632

7590

03/25/2010

SHELL OIL COMPANY
P O BOX 2463
HOUSTON, TX 772522463

EXAMINER

MCCAIG, BRIAN A

ART UNIT

PAPER NUMBER

1797

DATE MAILED: 03/25/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,477	12/21/2005	Jan Lodewijk Maria Diericks	TS1460US	8169

TITLE OF INVENTION: PROCESS TO PREPARE A FISCHER-TROPSCH PRODUCT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/25/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

23632 7590 03/25/2010

SHELL OIL COMPANY
P O BOX 2463
HOUSTON, TX 772522463

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/561,477

12/21/2005

Jan Lodewijk Maria Dierickx

TS1460US

8169

TITLE OF INVENTION: PROCESS TO PREPARE A FISCHER-TROPSCHE PRODUCT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/25/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
MCCAIG, BRIAN A	1797	208-108000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.111. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P O Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,477	12/21/2005	Jan Lodewijk Maria Diericks	TS1460US	8169
23632	7590	03/25/2010	EXAMINER	
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			MCCAIG, BRIAN A	
			ART UNIT	PAPER NUMBER

1797

DATE MAILED: 03/25/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 529 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 529 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<p style="text-align: center; font-weight: bold; font-size: 1.2em;">Notice of Allowability</p>	<p>Application No. 10/561,477</p> <p>Examiner BRIAN MCCAIG</p>	<p>Applicant(s) DIERICKX ET AL.</p> <p>Art Unit 1797</p>
--	--	--

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to December 29, 2009.

2. ☒ The allowed claim(s) is/are 1-5 and 8-12, renumbered as 1-2, 7-10, and 3-6, respectively.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

<p>Attachment(s)</p> <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p>	<p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____</p> <p>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other _____.</p>
<p>/ROBERT J. HILL, JR/ Primary Examiner, Art Unit 1797</p>	<p>BAM 3/20/2010</p>

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Craig Lundell on March 18, 2010.

The application has been amended as follows:

Please amend claim 1 as follows:

1. A process to prepare a waxy raffinate product, the process comprising:
 - (a) subjecting part of a Fischer-Tropsch synthesis product to a hydrogenation step to remove oxygenates and olefins from the Fischer-Tropsch product;
 - (b) isolating for the hydrogenated Fischer-Tropsch product two or more wax grades, wherein at least one wax grade has a congealing point between 30 and 80° C and at least one heavy grade has a congealing point of above 90° C;
 - (c) mixing part or all of the heavy wax with another part of the Fischer-Tropsch synthesis product to obtain a Fischer-Tropsch product having a weight ratio of compounds boiling above 540° C and compounds boiling between 370 and 540° C of greater than 2 to be used in step (d), wherein two or more grades of a paraffin wax having a congealing point ranging from 30° C to 120° C and a waxy raffinate product are prepared simultaneously;
 - (d) subjecting the Fischer-Tropsch derived product having a weight ratio of compounds boiling above 540° C and compounds boiling between 370 and 540° C of greater than 2 to a hydroconversion step; and

Art Unit: 1797

(e) fractionating the effluent of step (d) to obtain products boiling in the fuels range and a waxy raffinate product boiling between 350 and 600° C.

Please cancel claim 6.

2. The following is an examiner's statement of reasons for allowance: The prior art of record does not appear to anticipate or render obvious the limitation of claim 1. The prior Office actions asserted that claim 1 was unpatentable over Hoek (WO 2004/009739), which teaches hydrocracking/hydroisomerizing a Fischer-Tropsch (FT) product having a certain ratio of compounds having at least 60 carbon atoms to compounds having at least 30 carbon atoms ($>C_{60}/>C_{30}$) and then performing a separation to obtain a middle distillate fuel fraction and a microcrystalline wax with a boiling point between 500 and 600° C. Hoek does not teach steps (a) to (c) in amended claim 1. Instead, Adams et al (WO 2004/007647 A1) was relied upon for the deficiencies in the teaching of Hoek. However, the combination of the references appears to have been improper for the following two reasons.

3. The instant application specifies that the FT product has a weight ratio of compounds boiling above 540° C to compounds boiling between 370-540° C greater than 2 instead of the $>C_{60}/>C_{30}$ ratio as specified in Hoek. If a representative compound of the $>C_{60}$ hydrocarbons is hexacontane ($C_{60}H_{122}$), whose boiling point is approximately 615° C and a representative compound of the $>C_{30}$ hydrocarbons is triacontane ($C_{30}H_{62}$), whose boiling point is approximately 450° C, then it is possible to write the limitation of $>C_{60}/>C_{30}$ recited in claim 1 of Hoek as $x_2/(x_1 + x_2) > 0.2$, wherein $(x_1 + x_2)$ equals the quantity of compounds having a boiling point greater than 450° C (i.e., $>C_{30}$ or triacontane); x_2 equals the quantity of compounds having a boiling point greater than 615° C (i.e., $>C_{60}$ or hexacontane); and, therefore, x_1 equals the quantity of compounds having a boiling point between 450 and 615° C. This ratio may be rearranged and simplified so that $x_2 > 0.25 x_1$; i.e., the ratio of compounds having a boiling point greater than 615° C to compounds having a boiling point between 450 and 615° C is greater than or equal to 0.25. If Hoek is compared to instant claim 1, which states that the ratio of compounds having a boiling point greater than

Art Unit: 1797

540° C to compounds having a boiling point between 370 and 540° C is greater than 2, the numerator of the ratio of the instant application is compounds having a boiling point greater than 540° C, in which the numerator of the ratio of Hoek overlaps (being compounds having a boiling point greater than 615° C). The temperature ranges of the denominators also overlap (370 to 540° C for the instant application & 450 to 615° C for Hoek). The values of the ratio of Hoek (>0.25) includes the value of the ratio of the instant application (>2). Therefore, the FT products used in the hydroconversion of the instant application or hydroisomerization/hydrocracking step of Hoek may be similar or the same.

4. In the prior Office action, it was asserted that while neither Hoek nor Adams et al explicitly discloses mixing part or all of the heavy wax with another part of the FT synthesis product to obtain the FT product, since Hoek discloses that the feed to the hydroconversion is a relatively heavy FT product with a ratio of C_{80} to C_{30} of, preferably, 0.55, the mixing of part or all of the heavy wax from the separation process of Adams et al with another part of the FT synthesis product would have been obvious to obtain the FT product having a weight ratio of compounds boiling above 540 °C and compounds boiling between 370 and 540° C of greater than 2 as required in the instant application. However, as was shown in the previous paragraph, this assertion is not true since the FT product of Hoek which is subject to the hydroisomerization/hydrocracking (which reaction corresponds to the hydroconversion step in the instant application) may have the required ratio of components as specified in the instant application without the mixing step.

5. The second reason why the combination of Hoek and Adams et al may have been improper is that there is no motivation to combine the references. The Adams et al reference is directed to the production of two base oils, while the Hoek reference is directed to the production of a base oil and a middle distillate product. There was no motivation provided in the prior Office actions, which improperly referred to the Adams et al reference as evidence [see, e.g., the discussion in paragraphs 11 and 12 of the final Office action dated July 31, 2009].

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN MCCAIG whose telephone number is (571) 270-5548. The examiner can normally be reached on M-F 8-430.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAM
3/20/2010

/ROBERT J. HILL, JR/
Primary Examiner, Art Unit 1797